

REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks.

Claims 1-33 are pending in the application, with claims 1, 11, 13, 22, and 32 being independent. Claim 36 was previously canceled, and claims 34-35 and 37-40 are canceled herein without prejudice to or disclaimer of the subject matter recited therein. Claims 1, 11, 13, 22, and 32 are amended herein. Support for the claim amendments and additions can be found in the original disclosure. No new matter has been added.

DRAWING OBJECTION

The drawings stand objected to for failing to show every feature of the invention specified in the claims. More specifically, the Office states "determining a bid term" in claim 1 must be shown or the feature(s) canceled from the claim(s)." (Office Action, page 2, paragraph 3, lines 2-3). Although Applicant disagrees with the Office regarding an alleged lack of depiction of this feature in the drawings, Applicant has canceled the feature from the claim to expedite prosecution. Accordingly, Applicant requests withdrawal of the drawing objection.

CLAIM OBJECTIONS

Claims 1, 11, 26, 29, 35, and 37 stand objected to as unclear, incorrect, or lacking antecedent basis. Applicant has addressed the informalities noted in the Office Action, as follows:

- Claim 1: Applicant has amended the claim to recite “the multi-type data objects of ~~the~~ a same type” and “the multi-type data objects of different types.”
- Claim 11: Applicant has removed the recitations that the Office objected to.
- Claims 26, 29, and 36: Applicant respectfully submits that antecedent basis is established by claim 22 (“iteratively clustering” operation) for claims 26 and 29. Claim 36 has been canceled making this objection moot.
- Claim 37: Applicant has canceled claim 37, thus this objection is now moot.

Accordingly, Applicant requests reconsideration and withdrawal of the claim objections.

§ 112, FIRST PARAGRAPH, REJECTIONS

Claims 1, 13, 22, and 34 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. This rejection is respectfully traversed. Applicant has addressed the claim rejections noted in the Office Action, as follows:

- Claim 1: Applicant has amended the claim to remove the recitation of “attributes directly associated with.”
- Claim 13: Applicant has amended claim 13 to remove the alleged “sub-objects” referred to by the Office.

- Claim 22 and 34: Applicant has amended claim 22 to remove the alleged “sub-objects” referred to by the Office. Claim 34 has been canceled, thus the rejection is moot with respect to this claim.
- Claims 13, 22, and 34: Applicant has amended the claims to remove the recitations of “attributes directly associated with the.”

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection.

§ 112, SECOND PARAGRAPH, REJECTIONS

Claims 1, 11, 13, 22, 32, and 34 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. This rejection is respectfully traversed. Applicant has addressed the claim rejections noted in the Office Action, as follows:

- Claim 1: Applicant has amended claim 1 to remove the alleged “sub-object” structure referenced by the Office.
- Claims 13, 22, and 34: Applicant has amended claims 13 and 22 to remove the alleged modifying recitations of “attributes directly associated with.” Claim 34 has been canceled, thus the rejection is moot with respect to this claim.
- Claims 1, 11, 13, 22, 32, and 34: Applicant has amended claims 1, 11, 13, 22, and 32 to remove the alleged “sub-objects” and create consistency between the recitations of the claims and the disclosure of Applicant’s specification. Claim 34 has been canceled.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection.

§ 101 REJECTIONS

Claims 1-12, 34-35, and 37-40 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Applicant respectfully traverses the rejection. Claims 34-35 and 37-40 are canceled herein, thus making the rejection moot with regard to these claims.

Applicant has amended claims 1 and 11 to recite “a computing device that has one or more processors” and “a computer readable storage media.” Applicant submits that claim 1 now recites patentable subject matter under Section 101 in light of the amended recitations. Claims 2-10 and 12 depend from claim 1 and are believed allowable at least for their dependency on an allowable base claim.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection.

§ 103 REJECTIONS

Claims 1-10, 12-31, 33-35 and 37-40 stand rejected under 35 U.S.C. § 103(a) as being obvious over Singh et al., U.S. Patent Publication No. 2002/0165849 (hereinafter “Singh”) in view of Schuetze et al., U.S. Patent Publication No. 2003/0110181 (hereinafter “Schuetze”), in view of Turski et al., U.S. Patent Publication No. 2004/0255301

(hereinafter “Turski”), and in view of Kleinberg, U.S. Patent No. 6,112,202 (hereinafter “Kleinberg”). Applicant respectfully traverses the rejection.

Independent claim 1, as presently presented, recites a computer-implemented method performed by a computing device that has one or more processors to execute instructions, the method comprising (emphasis added):

- identifying intra-layer relationships among multi-type data objects *based on user interaction with the multi-type data objects*, wherein the intra-layer relationships are interconnections between the multi-type data objects of a same type in a homogeneous group of the multi-type data objects;
- identifying inter-layer relationships among the multi-type data objects *based on the user interaction with the multi-type data objects*, wherein the inter-layer relationships are interconnections between the multi-type data objects of different types in a heterogeneous group of the multi-type data objects;
- *iteratively clustering the multi-type data objects by the intra-layer relationships and the inter-layer relationships* to generate reinforced clusters; and
- generating a list of search terms associated with a bid term using the reinforced clusters, the search terms generated in response to receiving the bid term from a user; and
- storing the list of search terms on a computer readable storage media.

The Office relies on a combination of four references of Singh, Schuetze, Turski, and Kleinberg (hereinafter “Cited References”) as teaching or suggesting each element of claim 1. Applicant respectfully disagrees for reasons that follow.

First, Applicant respectfully submits that Turski, or any of the other Cited References, fails to teach or suggest “identifying inter-layer relationships among the multi-type data objects *based on the user interaction with the multi-type data objects*” The Office relies on Turski as teaching or suggestion an association of objects. (OA rejection at page 10, paragraph 1). Turski discloses “Each row in association table 302 associates two objects, obj1 and obj2, with a third object, called an associating object, objA.” (Turski, page 4, paragraph [0038]). Further, Turski discloses “The associated objects (obj1, obj2) represented in the future. obj1 field 312 and obj2 field 314 can be of arbitrary type.” (Turski, page 4, paragraph [0040]). However, the relationships in Turski are not taught or suggested by Turski to be “based on the user interaction with the multi-type data object,” as recited in claim 1. Instead, Turski only says the relationships are “arbitrary,” which does not suggest that the relationships are “based on user interaction.” In fact, Turski suggests the opposite because “based on user interaction” is not arbitrary.

Second, Applicant respectfully submits that Schuetze, or any of the other Cited References, fails to teach or suggest “iteratively clustering the multi-type data objects by the intra-layer relationships and the inter-layer relationships,” as recited in claim 1. The Office relies on paragraphs 35 and 43 (“iterative clustering”) of Schuetze. (See Office Action, page 10, paragraph 2). However, Schuetze cannot teach or suggest “clustering the multi-type data objects by the intra-layer relationships and the inter-layer relationships” because Schuetze fails to teach or suggest “inter-layer relationships.” Thus, Schuetze is at best only iteratively clustering intra-layering relationships. Further, since Turski fails to teach or disclose “inter-layer relationships . . . based on user

interaction," then the element of inter-layer relationships has not been taught or suggested, consequently making the Office's reliance on Schuetze deficient.

Furthermore, Applicant respectfully submits that the Cited References lack the requisite motivation to combine to establish a prima facie rejection under Section 103(a). It is well established law that it is impermissible to use hindsight to create motivation to combine references. As stated in *In re Oetiker*:

The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."

(*In re Oetiker*, 977 F.2d 1443, 24 USPQ 2d 1443 (Fed. Cir. 1992) quoting *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988)).

After *KSR*, the MPEP states: "The mere fact that references can be combined or modified does not render the resultant combination obvious unless . . . the results would have been predictable to one of ordinary skill in the art. *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 417, 82 USPQ2d 1385, 1396 (2007)('If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.')." (MPEP §2143.01). As noted above in *KSR*, a motivation requirement *still exists* in patent law.

In this instance, the Office Action includes a statement of motivation which states, "Turski's teachings would have allowed Singh's method to gain a representation of the

context between objects of different types, see Turski par. 6.” (Office Action, page 10, paragraph 2). Applicant respectfully traverses and notes that Turski must be combined with Schuetze to enable “iteratively clustering the multi-type data objects by the intra-layer relationships and the inter-layer relationships,” as recited in claim 1. The Office links Schuetze to Singh as follows: “Schuetze's teachings would have allowed Singh's method to formulate a query poorly matched to the corpus, see Schuetze par. 35.” (Office Action, page 11, lines 1-2). Thus, the Office uses Singh as a hub to connect each of these references. However, the essence of the claim 1 is not even taught or suggested by Singh, which is obvious from the heavy reliance on the remaining three references of the Cited References. Accordingly, Applicant respectfully submits that a required connection between the Cited References has not been set forth by the Office to show motivation to combine, particularly when elements of claim 1 are reliant upon one another, and a “hub” reference (Singh) does not teach or suggest elements recited by a majority of the claim. To further illustrate, Applicant notes that the Office begins three of the four paragraphs outlining the rejection to claim 1 with “Singh does not teach” (after upon removal of the first paragraph that discusses “determining a bid term,” because this clause of claim 1 has been removed). (Office Action, page 8, bullet number 1.)

Dependent claims 2-10, 12 depend from independent claim 1 and are allowable by virtue of this dependency, as well as for additional features that they recite. Applicant also respectfully requests individual consideration of each dependent claim.

Independent claim 13 is rejected by the Office for substantially the same reasons as claim 1. Applicant respectfully relies on at least similar reasoning as presented above in support of claim 1 as applied to claim 13 to the extent that claim 13 recites similar

subject matter as claim 1. Accordingly, applicant respectfully request reconsideration and withdrawal of the rejection to claim 13.

Dependent claims 14-21 depend from independent claim 13 and are allowable by virtue of this dependency, as well as for additional features that they recite. Applicant also respectfully requests individual consideration of each dependent claim.

Independent claim 22 is rejected by the Office for substantially the same reasons as claim 1. Applicant respectfully relies on at least similar reasoning as presented above in support of claim 1 as applied to claim 22 to the extent that claim 22 recites similar subject matter as claim 1. Accordingly, applicant respectfully request reconsideration and withdrawal of the rejection to claim 22.

Dependent claims 23-31, 33 depend from independent claim 22 and are allowable by virtue of this dependency, as well as for additional features that they recite. Applicant also respectfully requests individual consideration of each dependent claim.

Accordingly, for at least the reasons set forth above, it is respectfully submitted that the present rejection under 35 U.S.C. §103(a) should be reconsidered and withdrawn.

ALLOWABLE SUBJECT MATTER

The Office indicates that “claims 11 and 32 would be allowable if amended to overcome the 35 U.S.C. 112 rejections and claim objections.” (Office action, page 33, lines 4-6). Applicant thanks the Office for this indication of allowable subject matter. As discussed above, Applicant has addressed the claim objections and/or rejections to these claims and respectfully requests withdrawal of the objections and/or rejections.

In closing, Applicant's decision not to discuss the differences between the cited art and each dependent claim should not be considered as an admission that Applicant concurs with the conclusions set forth in the Office Action that these dependent claims are not patentable over the disclosure in the cited references. Similarly, Applicant's decision not to discuss differences between the prior art and every claim element, or every comment set forth in the Office Action, should not be considered as an admission that Applicant concurs with the interpretation and assertions presented in the Office Action regarding those claims. Indeed, Applicant believes that all of the dependent claims patentably distinguish over the references cited. Moreover, a specific traverse of the rejection of each dependent claim is not required, since dependent claims are patentable for at least the same reasons as the independent claims from which the dependent claims ultimately depend.

CONCLUSION

For at least the foregoing reasons, it is respectfully submitted that claims 1-33 are in condition for allowance. Applicant respectfully requests reconsideration and withdrawal of the rejections and an early notice of allowance.

The arguments and amendments presented herein were necessitated by the most recent Office Action, and could not have been presented previously because Applicant earnestly believed that the claims were in condition for allowance at the time of filing the previous response.

If any issue remains unresolved that would prevent allowance of this case, Applicant requests that the Examiner contact the undersigned attorney to resolve the issue.

Respectfully Submitted,

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